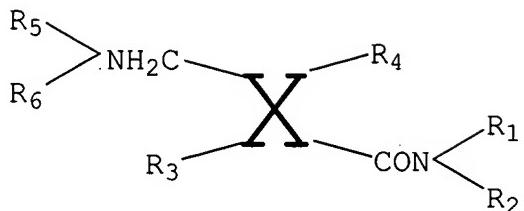


**I claim:**

1. A compound of the formula:



wherein:

R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are independently selected from the group consisting of H and C<sub>1</sub>--C<sub>2</sub> alkyl;

R<sub>3</sub> and R<sub>4</sub> are selected from C<sub>2</sub>--C<sub>8</sub> alkyl;

R<sub>6</sub> is selected from the group consisting of H and the L-isomer (amino acid convention) of R<sub>7</sub>--(CH<sub>2</sub>)<sub>n</sub>--HC(NH<sub>2</sub>)--CO--;

wherein

n is an integer from 0 to 3;

R<sub>7</sub> is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

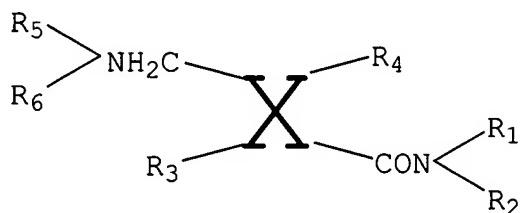
X is independently selected in each instance from the group consisting of trans, trans >C=CH--HC=C<, trans >C=C<, and >C\*H--(CH<sub>2</sub>)<sub>m</sub>--HC\*<, where "\*" indicates a chiral carbon atom and R<sub>3</sub> and R<sub>4</sub> are oriented L- and D- (amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2,

or a pharmaceutically acceptable salt, solvate or prodrug thereof.

2. The compound of claim 1 wherein R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are hydrogen.
3. The compound of claim 1 wherein R<sub>1</sub> is methyl and R<sub>2</sub> and R<sub>5</sub> are hydrogen.
4. The compound of claim 1 wherein R<sub>1</sub> and R<sub>2</sub> are methyl and R<sub>5</sub> is hydrogen.
5. The compound of claim 1 wherein R<sub>1</sub> and R<sub>2</sub> are hydrogen and R<sub>5</sub> is methyl.
6. The compound of claim 1 wherein R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are methyl.
7. The compound of claim 1 wherein R<sub>7</sub> is furanyl.
8. The compound of claim 1 wherein R<sub>7</sub> is pyrrolyl.
9. The compound of claim 1 wherein R<sub>7</sub> is thiophenyl.
10. The compound of claim 1 wherein R<sub>7</sub> is pyridinyl.
11. The compound of claim 1 wherein R<sub>7</sub> is indolyl.
12. The compound of claim 1 wherein R<sub>7</sub> is benzofuranyl.
13. The compound of claim 1 wherein R<sub>7</sub> is benzothiophenyl.
14. The compound of claim 1 wherein R<sub>7</sub> is quinolinyl.
15. The compound of claim 1 wherein R<sub>7</sub> is isoquinolinyl.
16. The compound of claim 1 wherein R<sub>7</sub> is imidazolyl.
17. The compound of claim 1 wherein R<sub>7</sub> is thiazolyl.
18. The compound of claim 1 wherein R<sub>7</sub> is pyrazinyl.
19. The compound of claim 1 wherein R<sub>7</sub> is primidinyl.
20. The compound of claim 1 wherein R<sub>7</sub> is purinyl.
21. The compound of claim 1 wherein R<sub>7</sub> is pteridinyl.
22. The compound of claim 1 wherein R<sub>6</sub> is hydrogen.
23. The compound of claim 22 wherein R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are hydrogen.
24. The compound of claim 22 wherein R<sub>1</sub> is methyl and R<sub>2</sub> and R<sub>5</sub> are hydrogen.
25. The compound of claim 22 wherein R<sub>1</sub> and R<sub>2</sub> are methyl and R<sub>5</sub> is hydrogen.

26. The compound of claim 22 wherein R<sub>1</sub> and R<sub>2</sub> are hydrogen and R<sub>5</sub> is methyl.
27. The compound of claim 22 wherein R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are methyl.
28. A pharmaceutical composition comprising a pharmaceutically acceptable carrier and a compound of the formula



wherein:

R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are independently selected from the group consisting of H and C<sub>1</sub>--C<sub>2</sub> alkyl;

R<sub>3</sub> and R<sub>4</sub> are selected from C<sub>2</sub>--C<sub>8</sub> alkyl;

R<sub>6</sub> is selected from H and the L-isomer (amino acid convention) of R<sub>7</sub>--(CH<sub>2</sub>)<sub>n</sub>--HC(NH<sub>2</sub>)--CO-;

wherein

n is an integer from 0 to 3;

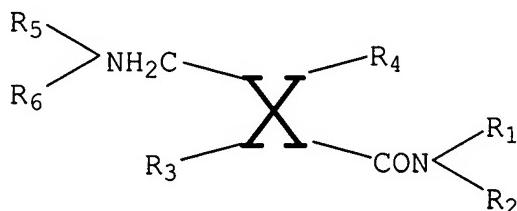
R<sub>7</sub> is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected in each instance from the group consisting of trans, trans >C=CH--HC=C<, trans >C=C<, and >C\*H--(CH<sub>2</sub>)<sub>m</sub>--HC\*< where "\*" indicates a chiral center and R<sub>3</sub> and R<sub>4</sub> are oriented L- and D- (amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof.

29. A method of treating a mammal affected with the magnesium-binding defect, comprising administering to the mammal a pharmaceutically effective amount of a compound of the formula



wherein:

R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are independently selected from the group consisting of H and C<sub>1</sub>--C<sub>2</sub> alkyl;

R<sub>3</sub> and R<sub>4</sub> are selected from C<sub>2</sub>--C<sub>8</sub> alkyl;

R<sub>6</sub> is selected from the group consisting of H and the L-isomer (amino acid convention) of R<sub>7</sub>--(CH<sub>2</sub>)<sub>n</sub>--HC(NH<sub>2</sub>)--CO-;

wherein

n is an integer from 0 to 3;

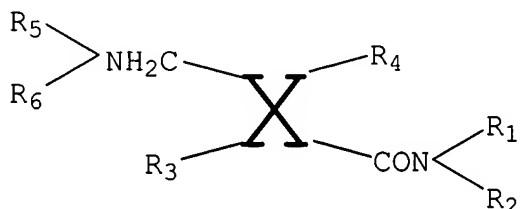
R<sub>7</sub> is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected from the group consisting of trans, trans >C=CH--HC=C<, trans >C=C<, and >C\*H--(CH<sub>2</sub>)<sub>m</sub>--HC\*< where "\*" indicates a chiral carbon atom and R<sub>3</sub> and R<sub>4</sub> are oriented L- and D- (amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof.

30. A method of treating a mammal with salt-sensitive, essential hypertension, comprising administering to the mammal a pharmaceutically effective amount of a compound of the formula:



wherein:

R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are independently selected from the group consisting of H and C<sub>1</sub>--C<sub>2</sub> alkyl;

R<sub>3</sub> and R<sub>4</sub> are selected C<sub>2</sub>--C<sub>8</sub> alkyl;

R<sub>6</sub> is selected from the group consisting of H and the L-isomer (amino acid convention) of R<sub>7</sub>--(CH<sub>2</sub>)<sub>n</sub>--HC(NH<sub>2</sub>)--CO--;

wherein

n is an integer from 0 to 3;

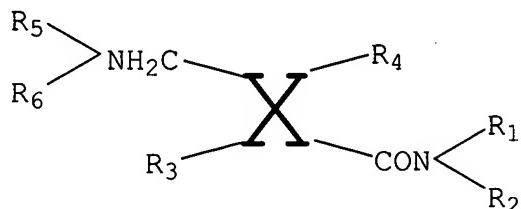
R<sub>7</sub> is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected from the group consisting to trans, trans >C=CH--HC=C<, trans >C=C<, and >C\*H--(CH<sub>2</sub>)<sub>m</sub>--HC\*< where "\*" indicates a chiral carbon atom and R<sub>3</sub> and R<sub>4</sub> are oriented L- and D-(amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof.

31. A method of treating a mammal with insulin resistance of Type 2 diabetes mellitus, comprising administering to the mammal a pharmaceutically effective amount of a compound of the formula:



wherein:

R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are independently selected from the group consisting of H and C<sub>1</sub>--C<sub>2</sub> alkyl;

R<sub>3</sub> and R<sub>4</sub> are selected from C<sub>2</sub>--C<sub>8</sub> alkyl;

R<sub>6</sub> is selected from the group consisting of H and the L- isomer (amino acid convention) of R<sub>7</sub>--(CH<sub>2</sub>)<sub>n</sub>--HC(NH<sub>2</sub>)--CO--;

wherein

n is an integer from 0 to 3;

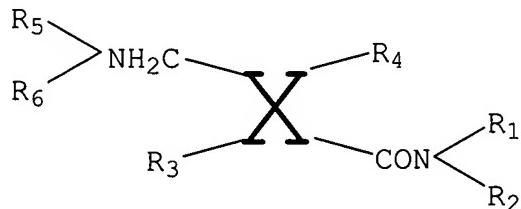
R<sub>7</sub> is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected from the group consisting of trans, trans >C=CH--HC=C<, trans >C=C<, and >C\*H--(CH<sub>2</sub>)<sub>m</sub>--HC\*< where "\*" is a chiral carbon atom and R<sub>3</sub> and R<sub>4</sub> are oriented L- and D-(amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof.

32. A method of treating a mammal affected with pre-eclampsia/eclampsia, comprising administering to the mammal a pharmaceutically effective amount of a compound of the formula:



wherein:

R<sub>1</sub>, R<sub>2</sub> and R<sub>5</sub> are independently selected from the group consisting of H and C<sub>1</sub>--C<sub>2</sub> alkyl;

R<sub>3</sub> and R<sub>4</sub> are selected from C<sub>2</sub>--C<sub>8</sub> alkyl;

R<sub>6</sub> is selected from the group consisting of H and the L-isomer (amino acid convention) of R<sub>7</sub>--(CH<sub>2</sub>)<sub>n</sub>--HC(NH<sub>2</sub>)--CO- ;

wherein

n is an integer from 0 to 3;

R<sub>7</sub> is selected from the group consisting of unsubstituted heteroaryl and monosubstituted heteroaryl, wherein said heteroaryl is selected from the group consisting of furanyl, pyrrolyl, thiophenyl, pyridinyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl, isoquinolinyl, imidazolyl, thiazolyl, pyrazinyl, primidinyl, purinyl, and pteridinyl, and said substituent is hydroxy, halo, amino, nitro, methyl or acetoxy;

X is independently selected in each instance from the group consisting of trans, trans >C=CH--HC=C<, trans >C=C<, and >C\*H--(CH<sub>2</sub>)<sub>m</sub>--HC\*< where "\*" indicates a chiral carbon atom and R<sub>3</sub> and R<sub>4</sub> are oriented L- and D-(amino acid convention) at these respective chiral centers; and

m = 0, 1 or 2, or

a pharmaceutically acceptable salt, solvate or prodrug thereof